

Listing of Claims:

Claim 1 (Currently Amended): A skull crucible (1) for melting or refining inorganic substances, in particular glass or glass ceramics, the crucible comprising:;

1.1 with a crucible wall (1.1);

1.2 with a crucible base (1.2) cooperating with said crucible wall to form an inner chamber;

1.3 with an induction coil (2) surrounding the crucible wall (1.1) wall and via which high frequency-energy is coupled to contents of the crucible;

1.4 wherein the crucible wall is formed from a crown of metal tubes which can be connected to a coolant, with slotted interstices between adjacent metal tubes;

1.5 the base (1.2) has a run-off for the melt;

1.6 a sleeve (4) is assigned to the run-off and defines an inlet end;

1.7 the inlet end (4.1) of the sleeve protrudes into the inner chamber of the skull crucible (1) so that the inorganic melt can be removed through a the crystallised crystallized base layer of the inorganic melt formed on the base in a controlled manner without the danger of impairing its quality; and

a temperature regulating device assigned to the sleeve and selectively adjusting the temperature of the sleeve such that the temperature of the sleeve is lowered during melting and raised during run-off of the melt.

Claim 2 (Currently Amended): A skull crucible as claimed in Claim 1, characterized in that the upper edge of the sleeve (4) is at a height of between a tenth to a half of the melt height measured from the base (1.2) of the crucible.

Claim 3 (Canceled)

Claim 4 (Currently Amended): A skull crucible as claimed in Claim 3 1, characterized in that an the upper area of the sleeve (4) projecting into the melt and forming a cavity is double-walled, and in that the cavity has an inlet (4.3) and an outlet (4.4) for a coolant.

Claim 5 (Currently Amended): A skull crucible as claimed in claim 1, characterized ~~characterised~~ by the following features.

- 1.5.1 the sleeve (4) has two coaxial sleeves including an outer sleeve and an inner sleeve;
- 2.5.2 the outer sleeve is a metal jacket;
- 3.5.3 the inner sleeve is a quartz glass tube.

Claim 6 (Currently Amended): A skull crucible as claimed in claim 1, characterized ~~characterised~~ in that the sleeve is height-adjustable.

Claim 7 (Currently Amended): A skull crucible as claimed in claim 8 ~~2~~, characterized in that the sleeve (4) is assigned a temperature regulating device for adjusting ~~or regulating it's the~~ temperature of the sleeve.

Claim 8 (Currently Amended): A skull crucible ~~as claimed in claim 2, characterized by the following features~~ for melting or refining inorganic substances, in particular glass or glass ceramics, the crucible comprising:

- a crucible wall;
- a crucible base cooperating with said crucible wall to form an inner chamber;
- an induction coil surrounding the crucible wall and via which high frequency-energy is coupled to contents of the crucible;
- wherein the crucible wall is formed from a crown of metal tubes which can be connected to a coolant, with slotted interstices between adjacent metal tubes, the base has a run-off for the melt, and a sleeve is assigned to the run-off and defines an inlet end, the inlet end of the sleeve protrudes into the inner chamber of the skull crucible so that the inorganic melt can be removed through a crystallized layer of the inorganic melt formed on the base in a controlled manner without the danger of impairing its quality, the sleeve has two coaxial sleeves including an inner and outer sleeve; the outer sleeve is a metal jacket; and the inner sleeve is a quartz glass tube.

Claim 9 (Canceled)

Application Serial No. 10/049,952
Response dated September 8, 2004
Reply to Office Action dated August 12, 2004

Claim 10 (Currently Amended): A skull crucible as claimed in claim 4, characterized by the following features:

- the sleeve (4) has two coaxial sleeves;
- the outer sleeve is a metal jacket;
- the inner sleeve is a quartz glass tube.

Claim 11 (Currently Amended): A skull crucible as claimed in claim 8 2, characterized in that the sleeve is height-adjustable.

Claim 12 (Canceled)

Claim 13 (Previously Presented): A skull crucible as claimed in claim 4, characterized in that the sleeve is height-adjustable.

Claim 14 (Previously Presented): A skull crucible as claimed in claim 5, characterized in that the sleeve is height-adjustable.

Claim 15 (New): A skull crucible as claimed in claim 8 characterized in that an upper area of the sleeve projecting into the melt and forming a cavity is double-walled, and in that the cavity has an inlet and an outlet for a coolant.

Claim 16 (New): A skull crucible as claimed in claim 8, characterized in that the sleeve is made from a noble metal.

Claim 17 (New): A skull crucible as claimed in claim 1, characterized in that the sleeve is made from a noble metal.

Claim 18 (New): A skull crucible as claimed in claim 17, characterized in that the noble metal of the sleeve is platinum or a platinum alloy.

Claim 19 (New): A method for melting or refining inorganic substances, in particular glass or glass ceramics, the method comprising:

Application Serial No. 10/049,952
Response dated September 8, 2004
Reply to Office Action dated August 12, 2004

melting the inorganic substances in an inner chamber of a skull crucible having a crucible wall and a crucible base, the crucible base comprising a run-off for the melt to which a sleeve is assigned;

cooling the sleeve during melting such that a crystallized layer of the inorganic substances is developed on the sleeve to protect the sleeve from corrosion by the melted inorganic substances; and

raising the sleeve to allow removal of the melt.

Claim 20 (New): The method of claim 19 wherein the sleeve is made from a noble metal.

Claim 21 (New): The method of claim 19 wherein the noble metal is platinum or a platinum alloy.